PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)* see form PCT/ISA/210 (second sheet)	
Applicant's or agent's file reference see form PCT/ISA/220	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/IB2005/050908	15.03.2005	25.03.2004

International Patent Classification (IPC) or both national classification and IPC
G09G3/34

Applicant
KONINKLIJKE PHILIPS ELECTRONICS N.V.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notifed the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:	Authorized Officer
European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Kunze, H Telephone No. +49 89 2399-6025

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ in written format

   ☐ in computer readable form

   c. time of filing/furnishing:

   ☐ contained in the international application as filed.

   ☐ filed together with the international application in computer readable form.

   ☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	6-9, 11
	No:	Claims	1-5, 10
Inventive step (IS)	Yes:	Claims	
	No:	Claims	6-9, 11
Industrial applicability (IA)	Yes:	Claims	1-11
	No:	Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

   D1: US-B1-6 567 062 (KUDO YASUYUKI ET AL) 20 May 2003 (2003-05-20)
   D2: US 2001/013852 A1 (MATSUSHIMA YASUHIRO ET AL) 16 August 2001 (2001-08-16)
   D3: WO 03/100515 A (KONINKLIJKE PHILIPS ELECTRONICS N.V; ZHOU, GUOFU; JOHNSON, MARK, T) 4 December 2003 (2003-12-04)

2. **Lack of novelty**
   The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-5 and 10 is not new in the sense of Article 33(2) PCT.

2.1 Regarding the independent **claim 1**, the document D1 discloses (the references in parentheses applying to this document):

A display unit (Fig. 1) comprising:
- a display panel (Fig. 1) with bi-stable pixels (at the intersections of the lines Vx and Vy in Fig. 1; liquid crystal display cells in parallel with a capacitor to store an applied pixel voltage aer bi-stable);
- selection circuitry (103 in Fig. 1) for, during a period of a first duration, selecting a line with pixels (Fig. 6, the signals on the lines Vy select pixels of one row for the duration of "1 scanning time-period"; and c. 8, l. 43-50);
- means (101 in Fig. 1) for supplying a data signal (the signal Vx on the data lines in Fig. 1) to a pixel, which data signal comprises a pulse of a second duration (e.g. the signal Vx1 for the duration of t40 in Fig. 6), which second duration is different from the first duration (c. 8, l. 51-62).

It is noted that the pixels of an electrophoretic display as described in the application as well as pixels of a liquid crystal display as cited in D1 are both in fact not only bi-stable but strictly speaking even multi-stable, i.e. such pixels can be set to a desired

transmissibility level which is maintained.

2.2 The independent method **claim 10** defines the method which corresponds to the apparatus claim 1. The application of a device according to claim 1 which is known from D1 implies the steps of the method according to claim 10. Consequently, the features of claim 10 are not new either.

2.3 Also the features of the following dependent claims are known from D1.

2.4 Regarding **claim 2**, D1 defines: The second duration is shorter than the first duration (e.g. 40% of the duration of the first duration, cf. c. 8, l. 51-62).

2.5 Regarding **claim 3**, D1 defines: A pixel is coupled to a common electrode (Fig. 1, the lines Vx are common to all pixels in one column), with the means comprising common electrode circuitry for driving the pixel via the common electrode (the signals on the lines Vx drive the pixels, directly apparent from Fig. 1).

2.6 Regarding **claim 4**, D1 defines: A pixel is coupled to a storage capacitor (the capacitor parallel to the liquid crystal cells in Fig. 1), with the means comprising storage capacitor circuitry for driving the pixel via the storage capacitor (a pixel is driven via the storage capacitor because this capacitor is in parallel to the liquid crystal cell, directly apparent from Fig. 1).

2.7 Regarding **claim 5**, D1 defines: One side of a pixel is coupled to a common electrode (Fig. 1, the lines Vx are common to all pixels in one column) and another side is coupled to a storage capacitor (the capacitor parallel to the liquid crystal cell), with the means comprising common electrode circuitry (101 in Fig. 1) and storage capacitor circuitry for driving the pixel via the common electrode and the storage capacitor in an anti phase way (Fig. 6, when the signal Vy goes does, the signal Vx being responsible for charging the capacitor goes up).

3. **Lack of inventive step**

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 6-9 and 11 does not involve an inventive step in the sense of

Article 33(3) PCT.

3.1 Independent **claim 11** defines a computer program product for carrying out the method of claim 10, said method being known from D1 (see item 2.2 above). However, the mere implementation of a known method in a computer program does not involve an inventive step because for a person skilled in the art, it is a standard procedure to realise a method for controlling a display in software.

3.2 **Claim 6** defines: The means comprise circuitry coupled to the selection circuitry for selecting at least two lines simultaneously. The display unit according D1 differs from the display according to claim 6 in that only one selection line is selected at a time. However, selecting several selecting lines simultaneously is known to offer the advantage to provide images of high resolution according to an interlace method, cf. D2, par. 10. It would therefore be obvious to the person skilled in the art, to apply a circuitry for selecting several selecting lines simultaneously according to document D2 to a display unit according to D1, thus arriving at a display unit according to claim 6.

3.3 **Claim 7** defines: The means comprise circuitry coupled to data circuitry for coupling at least two data electrodes to each other. However, this kind of grouping the data lines is a procedure which a person skilled in the art would apply according to the circumstances, e.g. in order to save circuitry in the data driver.

3.4 **Claim 8** defines: The display unit further comprises a controller which is adapted to provide:
- shaking data pulses;
- one or more reset data pulses;
- one or more driving data pulses.

The display unit according D1 differs from the display according to claim 8 in that such data pulses are not applied. However, the application of such pulses is known to reduce image retention, cf. D3, p. 2, l. 10 - p. 3, l. 5 and Fig. 4. It would therefore be obvious to the person skilled in the art, to implement a controller for providing shaking-, reset- and driving pulses in the display driver.

3.4 **Claim 9** defines: The display unit comprises a storage medium for storing information to be displayed. However, a storage medium, in particular a frame buffer, is a standard component of a display unit which a person skilled in the art would integrate in the driver circuitry of the display of D1.

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